

## 6. Susan

**Program Name:** Susan.java

**Input File:** susan.dat

Susan is experimenting with simple encoding techniques to send messages. So far, she can only get single words or word fragments, so her codes don't quite make sense, but she will persist.

The encoded word or fragment is in the form of a sentence, with the last token of the sentence (enclosed in square brackets [ ]) as the regular expression code that divides up the sentence, with an attached adjacent integer indicating the position in the resulting division of the encoded word or fragment. A regular expression enclosed in [ ] means that any of the characters, including a space, are used to divide the sentence. The [AN] example below means that the sentence is split at any occurrence of either the 'A' or the 'N'. If there is a '+', that means any combination of any of those letters will be used as a single division of the sentence.

For example, in the sentence:

ONE FLEW EAST, ONE FLEW WEST, ONE FLEW OVER THE CUCKOO'S NEST [ ]10

the output would be "CUCKOO 'S" since that word is in position 10 of the resulting array.

For the sentence, ONE IF BY LAND, TWO IF BY SEA [AN]3

the [AN]3 divides the sentence into the phrases "O", "E IF BY L", "", "D, TWO IF BY SE ", with the empty string created by the "AN" side by side in the word "LAND".

For, "METHINKS HE DOTH PROTEST TOO MUCH [O+]2", the O+ divides the sentence into "METHINKS HE D", "TH PR", "TEST T", and " MUCH ", since the "O+" in the expression means, "one or more Os".

**Input:** Several sentences, each with a code token and integer at the end.

**Output:** The resulting word or word fragment for each input sentence and code token.

**Sample Input:**

ONE FLEW EAST, ONE FLEW WEST, ONE FLEW OVER THE CUCKOO'S NEST [ ]10

ONE IF BY LAND, TWO IF BY SEA [AN]3

METHINKS HE DOTH PROTEST TOO MUCH [O+]2

**Sample Output:**

CUCKOO'S

D, TWO IF BY SE

TEST T